



Example Workflow Engines

- **Dataflow model / Entity-based**
 - The workflow is constructed from data processing and data transport (processors and data links).
 - Directed graphs
 - *Natural for scientific workflows*
 - E.g. Simple Conceptual Unified Flow Language (Scufl)
- **Process-centric model / Activity-based**
 - The nodes in the workflows are activities and the “data” passed between them form a control system rather than being a genuine flow of messages.
 - “State transitions”
 - *Natural for business processes*
 - E.g. Business Process Execution Language (BPEL)

- Mixed results with workflow-based visual programming
- Asynchronous services
 - WS-Eventing and WS-Messaging
 - “Jobification” of SOAP/REST service interfaces
- Integrating with other services
 - ServiceCasting, DataCasting, Federated OpenSearch, etc.
- Collaborative workflows
 - myExperiment (Taverna)
- Semantic service and datatype ontology
 - ESIP and EDSWG activity
- Automated workflow discovery, execution, composition and interoperation
 - OWL-Services, WS-BPEL (legacy OASIS BPEL4WS)
- Open Provenance Model (OPM), semantic web services, and Proof Markup Language (PML)